Aalto University

The evidence base of livable city

& applications in planning?

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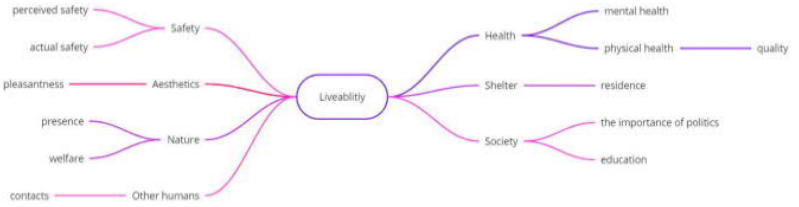
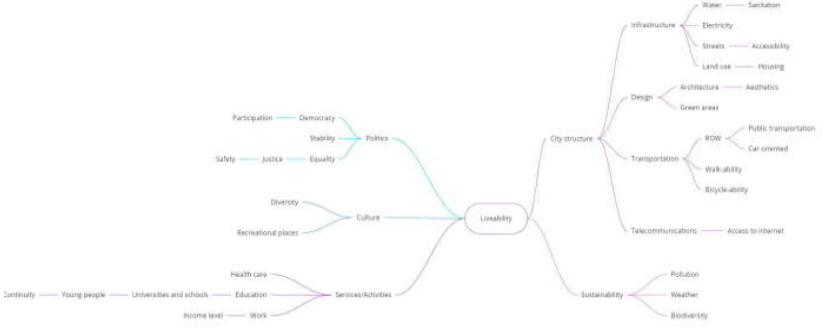
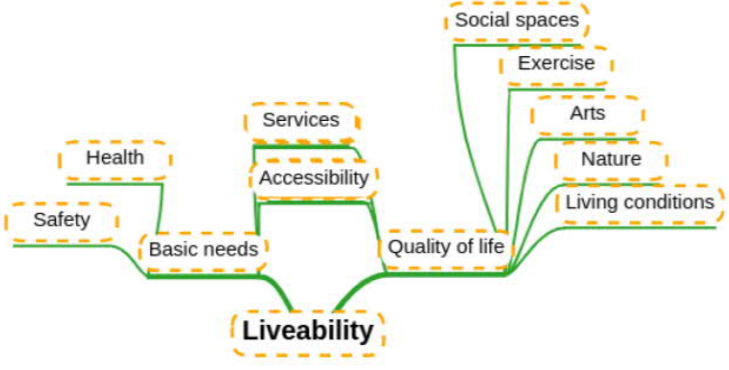
How to define livability?

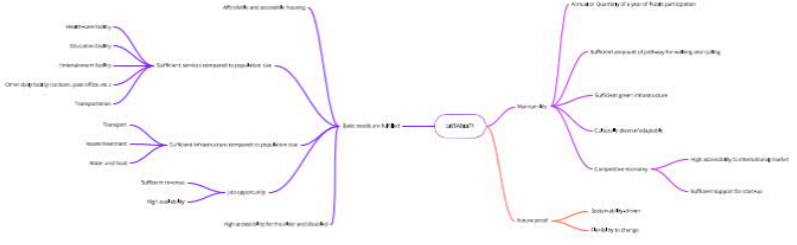
You already thought about this....

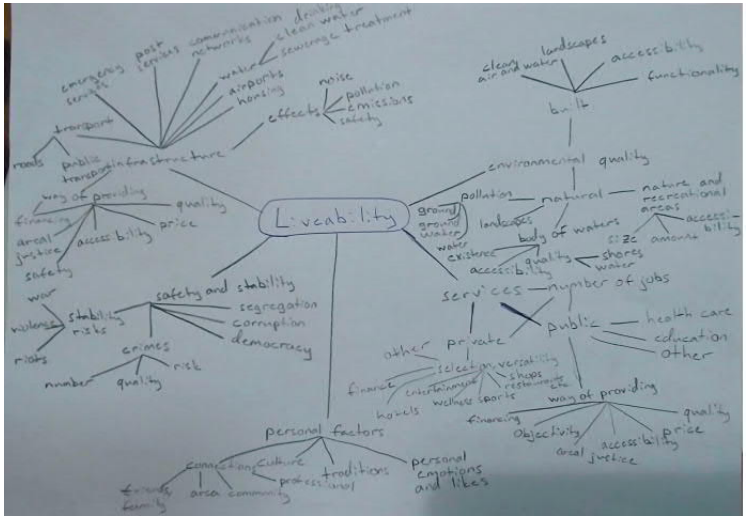
OPEN
Secure
Accessible
LIVEABILITY
Attractive

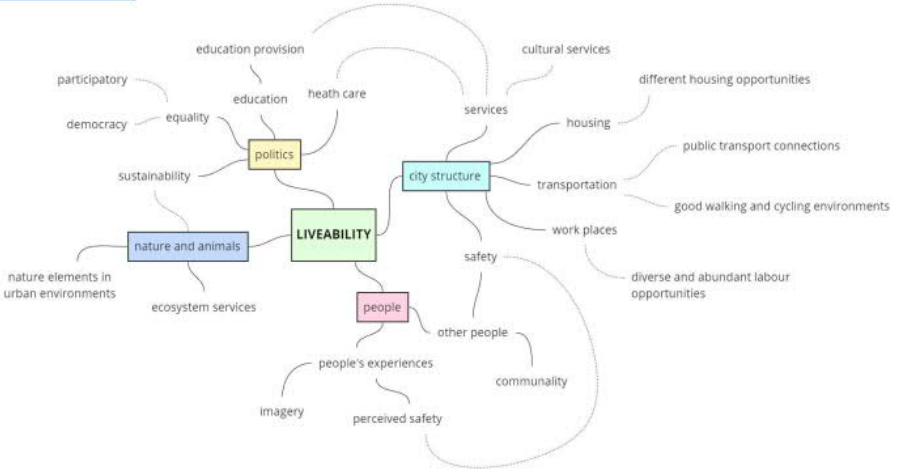

perceived safety
actual safety
Safety
pleasantness
Aesthetics
presence
welfare
Nature
contacts
Other humans
Liveablitiy
Health
mental health
physical health
quality
Shelter
residence
Society
the importance of politics
education

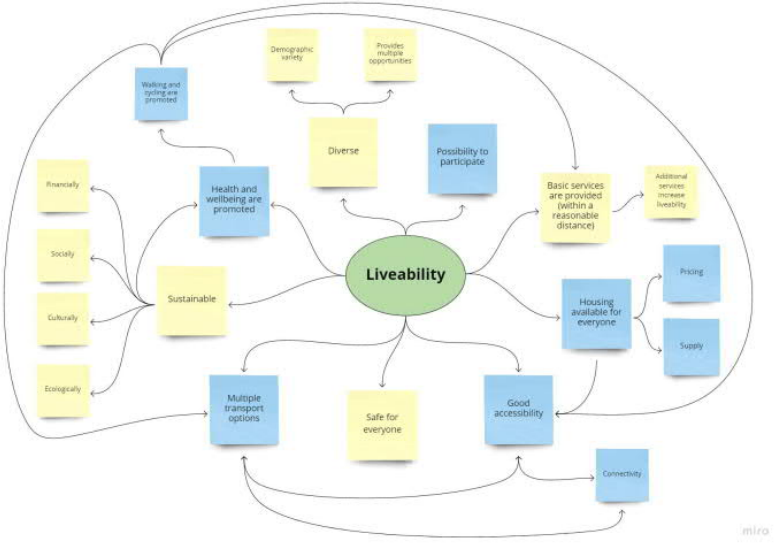

Participation
Democracy
Stability
Politics
Safety
Justice
Equality
Diversity
Culture
Recreational places
Health care
Continuity
Young people
Universities and schools
Education
Income level
Work
Services/Activities
Liveability
City structure
Infrastructure
Water
Sanitation
Electricity
Streets
Accessibility
Land use
Housing
Design
Architecture
Aesthetics
Green areas
Transportation
ROW
Public transportation
Car oriented
Walk-ability
Bicycle-ability
Telecommunications
Access to internet
Sustainability
Pollution
Weather
Biodiversity

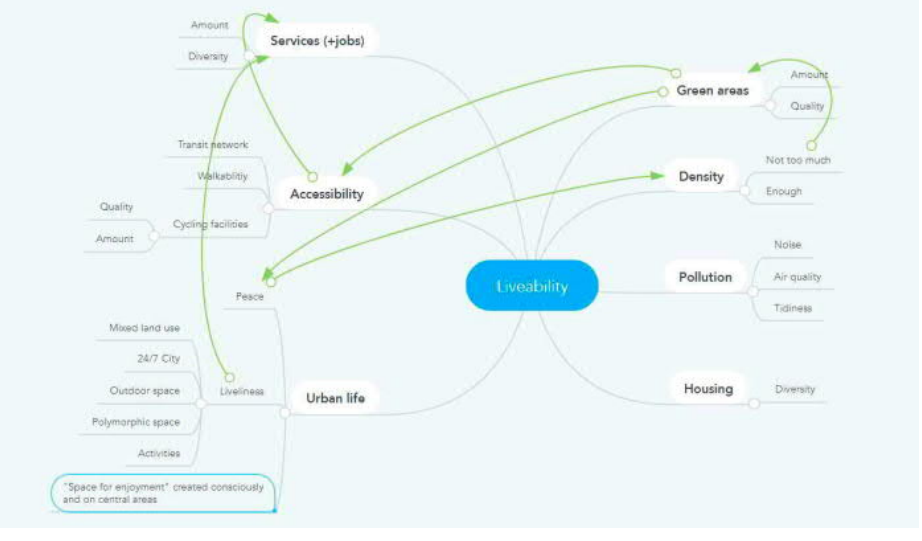

Social spaces
Exercise
Arts
Nature
Living conditions
Services
Accessibility
Health
Safety
Basic needs
Quality of life
Liveability

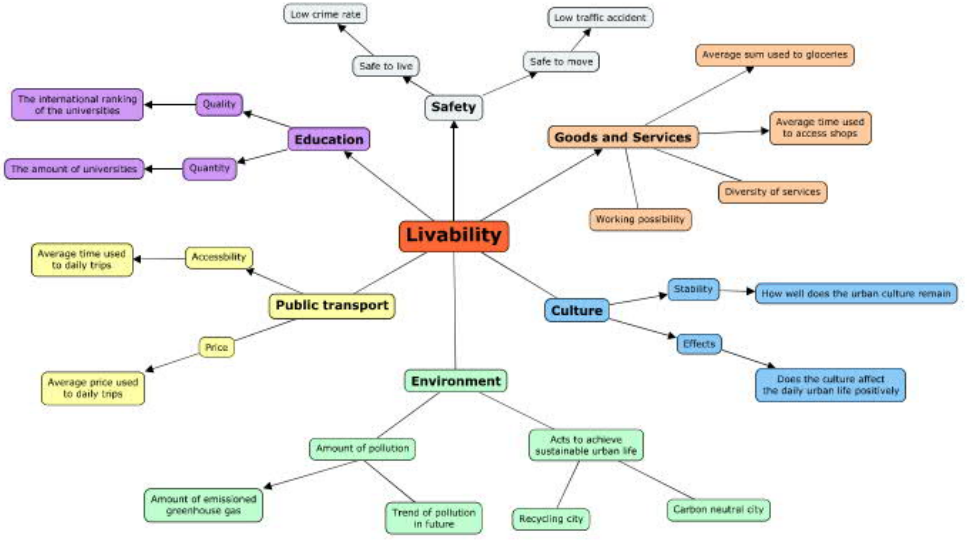


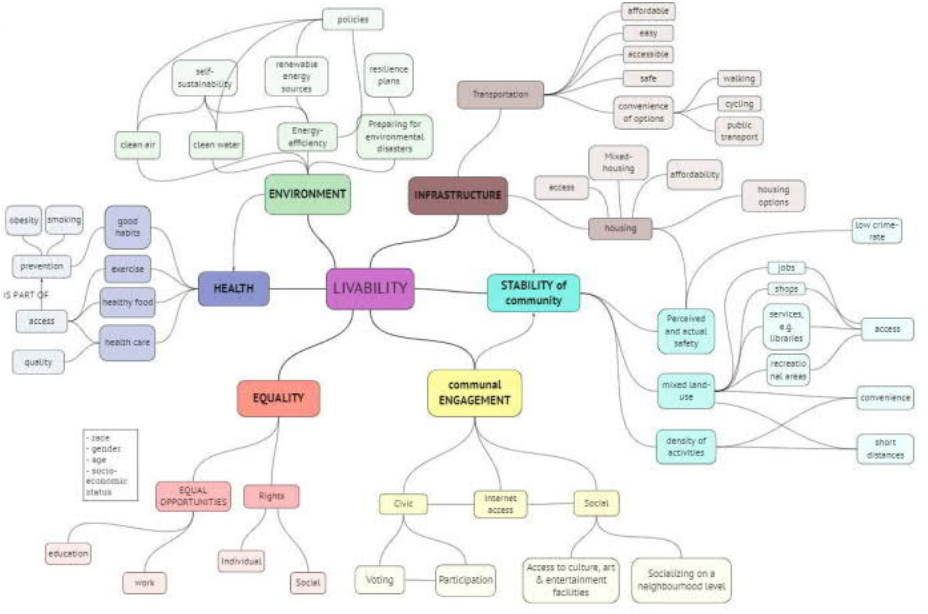

Liveability
infrastructure
environmental quality
natural
services
public
private
personal factors
safety and stability


LIVEABILITY
politics
education provision
education
heath care
participatory
democracy
equality
sustainability
nature and animals
nature elements in urban environments
ecosystem services
city structure
services
cultural services
housing
different housing opportunities
public transport connections
transportation
good walking and cycling environments
work places
diverse and abundant labour opportunities
safety
people
other people
people's experiences
communality
imagery
perceived safety


Liveability
Walking and cycling are promoted
Demographic variety
Provides multiple opportunities
Diverse
Possibility to participate
Health and wellbeing are promoted
Basic services are provided (within a reasonable distance)
Additional services increase liveability
Financially
Socially
Culturally
Ecologically
Sustainable
Housing available for everyone
Pricing
Supply
Multiple transport options
Safe for everyone
Good accessibility
Connectivity
miro

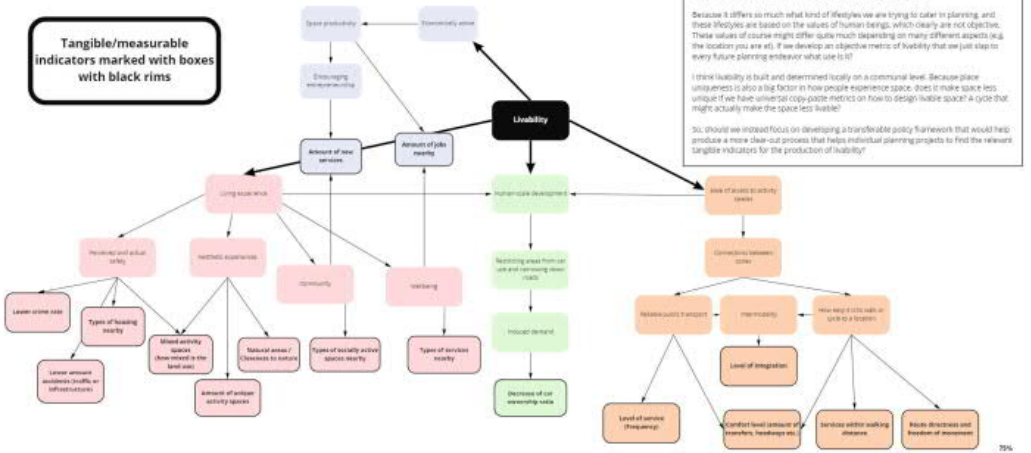

Liveability
Services (+jobs)
Amount
Diversity
Green areas
Amount
Quality
Density
Not too much
Enough
Pollution
Noise
Air quality
Tidiness
Housing
Diversity
Accessibility
Transit network
Walkabiltiy
Cycling facilities
Quality
Amount
Peace
Urban life
Liveliness
Mixed land use
24/7 City
Outdoor space
Polymorphic space
Activities
"Space for enjoyment" created consciously and on central areas


Livability
Safety
Low crime rate
Safe to live
Low traffic accident
Safe to move
Education
Quality
The international ranking of the universities
Quantity
The amount of universities
Goods and Services
Average sum used to groceries
Average time used to access shops
Diversity of services
Working possibility
Public transport
Accessibility
Average time used to daily trips
Price
Average price used to daily trips
Culture
Stability
How well does the urban culture remain
Effects
Does the culture affect the daily urban life positively
Environment
Amount of pollution
Amount of emissioned greenhouse gas
Trend of pollution in future
Acts to achieve sustainable urban life
Recycling city
Carbon neutral city


LIVABILITY
ENVIRONMENT
policies
self-sustainability
renewable energy sources
resilience plans
clean air
clean water
Energy-efficiency
Preparing for environmental disasters
INFRASTRUCTURE
Transportation
affordable
easy
accessible
safe
convenience of options
walking
cycling
public transport
Mixed-housing
affordability
access
housing
housing options
HEALTH
obesity
smoking
good habits
prevention
exercise
healthy food
access
health care
quality
STABILITY of community
low crime-rate
Perceived and actual safety
jobs
shops
services, e.g. libraries
access
recreational areas
mixed land-use
convenience
density of activities
short distances
EQUALITY
- race
- gender
- age
- socio-economic status
EQUAL OPPORTUNITIES
Rights
education
work
Individual
Social
communal ENGAGEMENT
Civic
Internet access
Social
Voting
Participation
Access to culture, art & entertainment facilities
Socializing on a neighbourhood level

miro

Tangible/measurable indicators marked with boxes with black rims



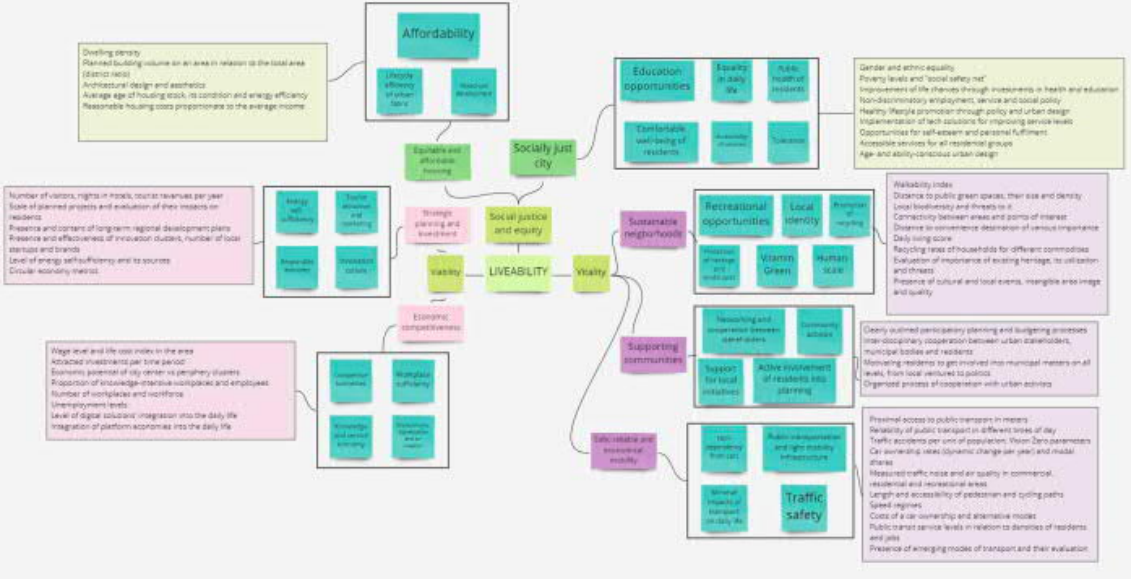
Just a thought I had:

Should we even try to make livability a *transferable* objective metric?

Because it differs so much what kind of lifestyles we are trying to cater in planning, and these lifestyles are based on the values of human beings, which clearly are not objective. These values of course might differ quite much depending on many different aspects (e.g. the location you are at). If we develop an objective metric of livability that we just slap to every future planning endeavor what use is it?

I think livability is built and determined locally on a communal level. Because place uniqueness is also a big factor in how people experience space, does it make space less unique if we have universal copy-paste metrics on how to design livable space? A cycle that might actually make the space less livable?

So, should we instead focus on developing a transferable policy framework that would help produce a more clear-cut process that helps individual planning projects to find the relevant tangible indicators for the production of livability?



Summary of your main definitions

Is smart city a livable city?

“A city can be considered as "smart" when its investment in human and social capital and in communications infrastructure actively promote sustainable economic development and a high quality of life, including the wise management of natural resources through participatory government.”

(Barcelona Mayor/ Azkuna, 2012)

There are an abundance of definitions

"Common attributes include walkability, variety of housing options, mixed land-uses, preservation of green space, opportunities for civic engagements, job opportunities for all, respecting local heritage, low crime rates, quality of education, balanced transportation options…"

Caves & Wagner 2018: Livable Cities from a Global Perspective

"A place with good qualities for human life"

Blanco, H. (2018) Livable Cities: From Concept to Global Experience

Livability is a sum of the factors that add up to a community's quality of life – including the built and natural environments, economic prosperity, social stability and equity, educational opportunity, and cultural, entertainment and recreation possibilities..

Partner for Livable Communities

Short history of the concept

- Lynch's Image of the City
- Appleyard's Livable Streets
- Partners for Livable Places was formed in 1977
- 1981 a book Experiences in Creating livable Cities

Rankings

Quantifications

"The urban living environment creates opportunities while also providing stimuli with indisputable value to the appeal and thus the competitiveness of the city" (City of Helsinki 2013)

Roots in the criticism of modernistic urban planning

A reforme party (TEAM) in Vancouver Canada brought the ideology of livability to public debate in their criticism of local politics

Healthy Cities Movement

New Urbanism and "Smart Growth Movement"

More recently livability has been linked with the discussions on competition between the cities, creative cities, etc.

Based on the slide by Tuomas Ilmavirta, 2018

The Economist' Global liveability ranking

The ranking based on 30 factors:

- Safety
- Healthcare
- Educational resources
- Infrastructure
- Environment
- Etc.

World's most liveable cities

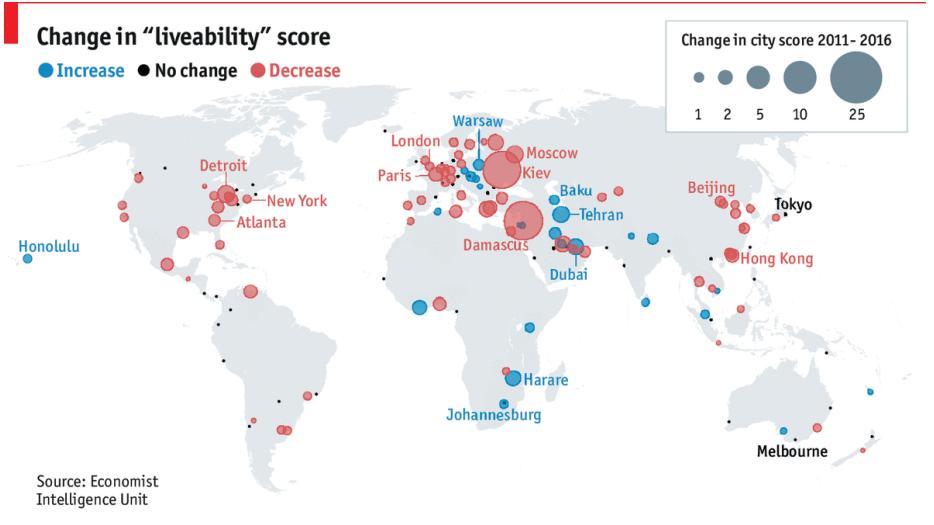
2016, based on liveability index*

Rank	City	Country
1	Melbourne	Australia
2	Vienna	Austria
3	Vancouver	Canada
4	Toronto	Canada
5=	Calgary	Canada
5=	Adelaide	Australia
7	Perth	Australia
8	Auckland	New Zealand
9	Helsinki	Finland
10	Hamburg	Germany

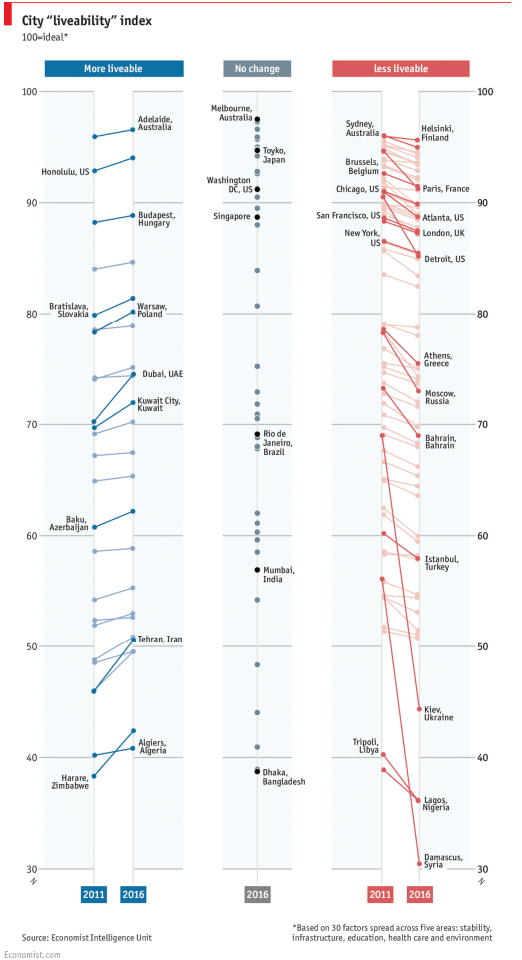
*Based on 30 factors spread across five areas: stability, infrastructure, education, health care and environment

Source: Economist Intelligence Unit

Economist.com

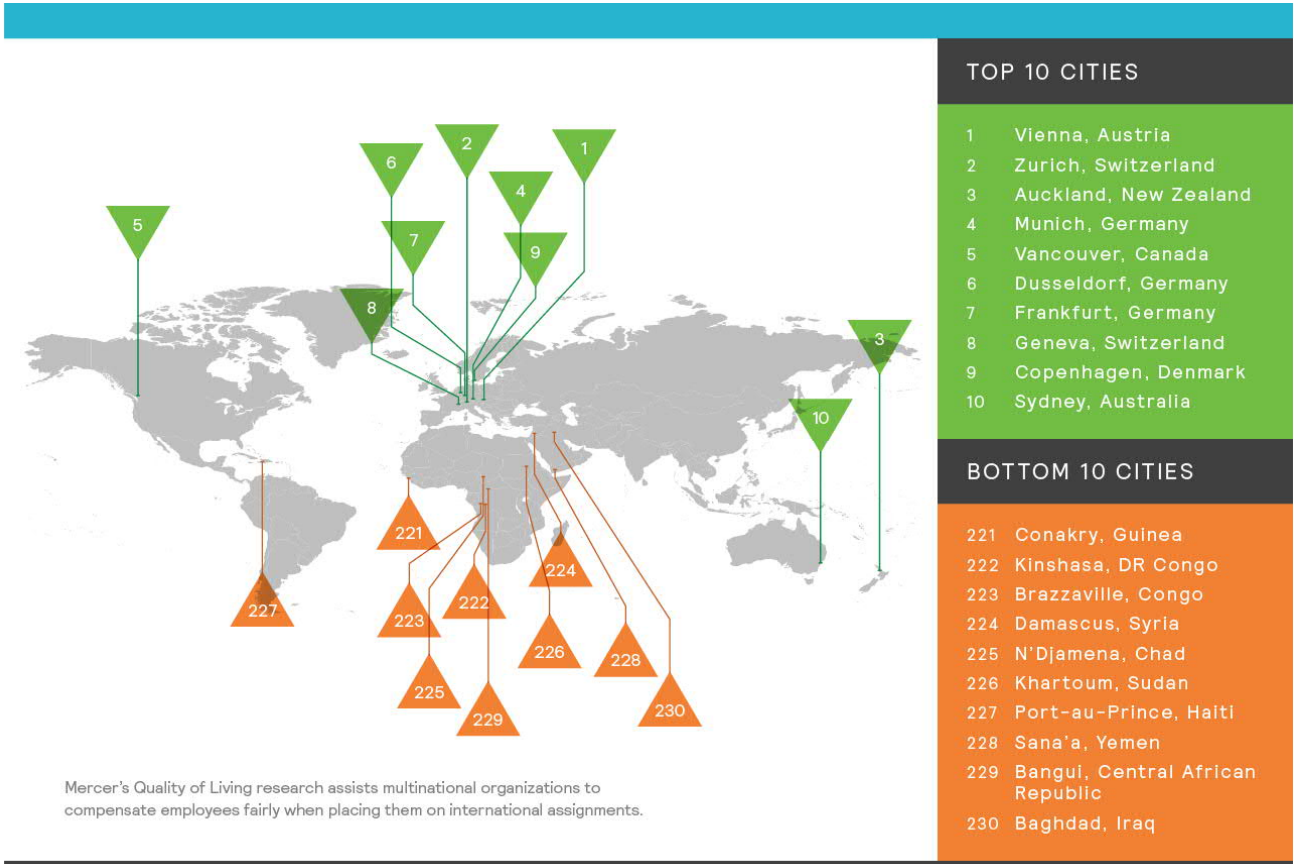


Economist.com



Economist.com

Mercer: Quality of living ranking



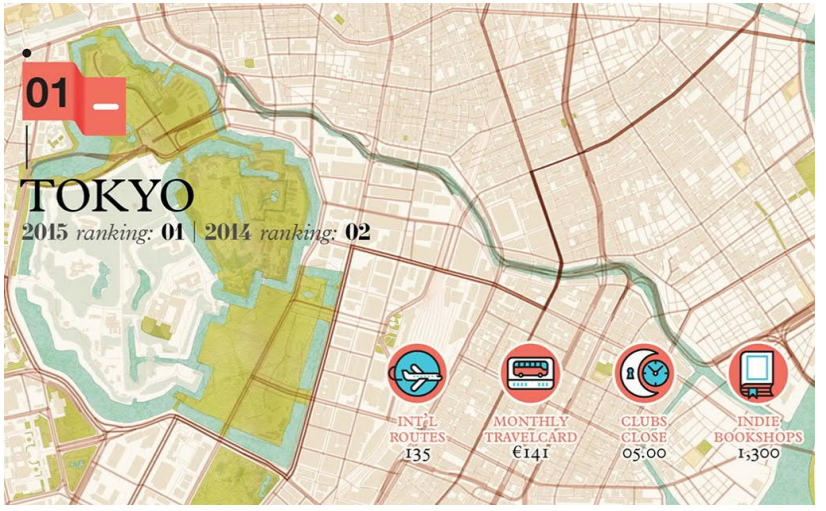
Methodology

Political and social environment (political stability, crime, law enforcement, etc.).
Economic environment (currency exchange regulations, banking services).
Socio-cultural environment (media availability and censorship, limitations on personal freedom).
Medical and health considerations (medical supplies and services, infectious diseases, sewage, waste disposal, air pollution, etc.).
Schools and education (standards and availability of international schools).
Public services and transportation (electricity, water, public transportation, traffic congestion, etc.).
Recreation (restaurants, theatres, cinemas, sports and leisure, etc.).
Consumer goods (availability of food/daily consumption items, cars, etc.).
Housing (rental housing, household appliances, furniture, maintenance services).
Natural environment (climate, record of natural disasters).

Monocle's Global liveability ranking

Ranking based on, for example:

- Number the places that still serve a good meal after 22.00
- Number of murders
- Number of break-ins
- The average response times of emergency services
- Etc.



Livability/
quality of life/
best places to live
have become
important aspects
in global competition
between cities

Dhaka, Bangladesh

Did The Economist survey anybody who's living under a bridge or skipping meals to pay their power bill? Melbourne is a great city but for many, it provides anything but an easy life.
Emma King Victorian Council of Social Service chief executive

Melbourne, Australia

Critisicm towards the livability rankings

- They are focusing on the image of the city from the point of view of economically privileged
- For example affordability of housing is included in the indexes but not really affecting the results
  - 80-90 % of respondents in top ranking cities saw that it is difficult to find affordable housing
- Geographical issues - what is included (metro region, core municipality, mega-region..?)
- Changing metrics – indexes are not consistent over time
- Methodological biases
  - Mercer focuses on the “values of traveling corporate executives, academics and researcher targeted by such surveys” (Kotkin, 2009)

Based on the slide by Tuomas Ilmavirta, 2018

Towards scientific understanding of livability?

Five classic urban design theories

Marshall (2012): Pseudoscientific?

The city images can be conveniently classified into five types of elements: paths, edges, districts, nodes and landmarks (Lynch, 1960: The image of a city)	• Partial positive confirmation of five elements (Aragones and Arredondo, 1985) • Alternative elements not investigated • No overall testing nor validation of overall linked hypothesis
The art of relationship is to manipulate the elements of the town so that an impact on the emotions are achieved (Gullen, 1961: Townscape)	• Partial positive confirmation (Isaacs, 2000) • No overall testing nor validation of overall linked hypothesis
Lively city: multifunctional, small blocks, diverse buildings, density (Jacobs, 1961: The Death and Life of Great American Cities)	• Limited testing of main hypothesis • Weicher (1973) and Schmidt (1977) find Jacobs' hypothesis refuted • Fowler (1987) finds some support
Cities are unplannable because it is impossible to reproduce natural (traditional) cities (Alexander, 1965: City is not a tree)	• 'Semilattice' challenged by Harary and Rockey (1976) • The 'cognitive constraint' hypothesis appears to remain untested

Way forward?

Marshall:
As long as urban design is an academic discipline, urban design theory is surely better supported on a foundation of science than pseudo-science

1. Test existing urban design theories and generate alternative ones
2. Urban designers would do well to have a basic training in statistics and relevant social and natural sciences
3. Reformulate a more robust family of theories

Special challenges:

- Urban design combine the urban ‘is’ and ‘ought’
- go beyond scientific knowledge (but should also be grounded on scientific knowledge)
- should not just be normative artistic or political manifestos

Livable = healthy?

In the Australian urban policy discourse, the role of the built environment in supporting health and well-being as well as sustainability and productivity, is increasingly counched in terms of

livability.

(Lowe et al 2015)

Livable environments

integrate physical and social well-being parameters to sustain a productive and meaningful human existense."

(Kashef, 2016)

Table 1. The number of papers that mention relevant indicators and the types of indicators in each policy domain

Policy areas	Number of papers that mention relevant indicators	Types of indicators identified
Crime and safety	43	Perceptions of safety; and rates of crimes against property and the person.
Transport	38	Rates of engagement in active and public transport modes; the accessibility, quality and layout of infrastructure; travel times and distances; perceptions of car parking; car dependency and ownership; speed and affordability of freight transport; motor vehicle mileage; traffic speeds; car and freight commute times; modal share; transport affordability; connectivity across the transport network; transport safety; and traffic noise.
Housing	35	Quality and affordability of housing; housing density; land use mix; residential population; housing stock and tenure; and housing adaptability.
Employment and income	32	Income; income distribution; employment; employment rates; employment growth over time; the location of employment; and the number and types of jobs available locally.
Social cohesion and local democracy	31	Opportunities to contribute to important issues; membership of community organisations; feeling part of the community; access to social support; community volunteering; parent involvement in schools; community acceptance of diversity; opportunities for community input in planning and governance; community pride and attachment; and social and community connectedness.
Public open space	30	Access to and quantity of public open space; variety and quality; and frequency of use.
Leisure and culture	30	Access to and presence of appropriate cultural and leisure activities measured both objectively and subjectively.
Health and social services	26	The distance to and number of General Practices for a given population; access to various services for older adults; provision of aged-care facilities; the number of hospital beds available; and access to: public amenities, child and youth services, and emergency centres.
Natural environment	25	Water and air quality; greenhouse gas emissions; water quantity and conservation; precipitation; climate; biodiversity; and energy consumption.
Education	24	Access to education (i.e. distance); availability of formal educational opportunities; rates of secondary-school student retention; and Internet access.
Food and other local goods	22	Access to different types of food and shops; food prices; food security; and local retail activity.

More comprehensive, evidence-based list of indicators for planning livable & health promotive cities

"Safe, attractive, socially cohesive and inclusive, and environmentally sustainable; with affordable and diverse housing linked to employment, education, public open space, local shops, health and community services, and leisure and cultural opportunities; via convenient public transport, walking and cycling infrastructure"

Lowe et al. (2013)

Creating livable cities in Australia

(Arundel et al. 2017)

Urban Liveability Domains

- Walkability
- Public Transport
- Public Open Space
- Housing Affordability
- Employment
- Food Environment
- Alcohol Environment

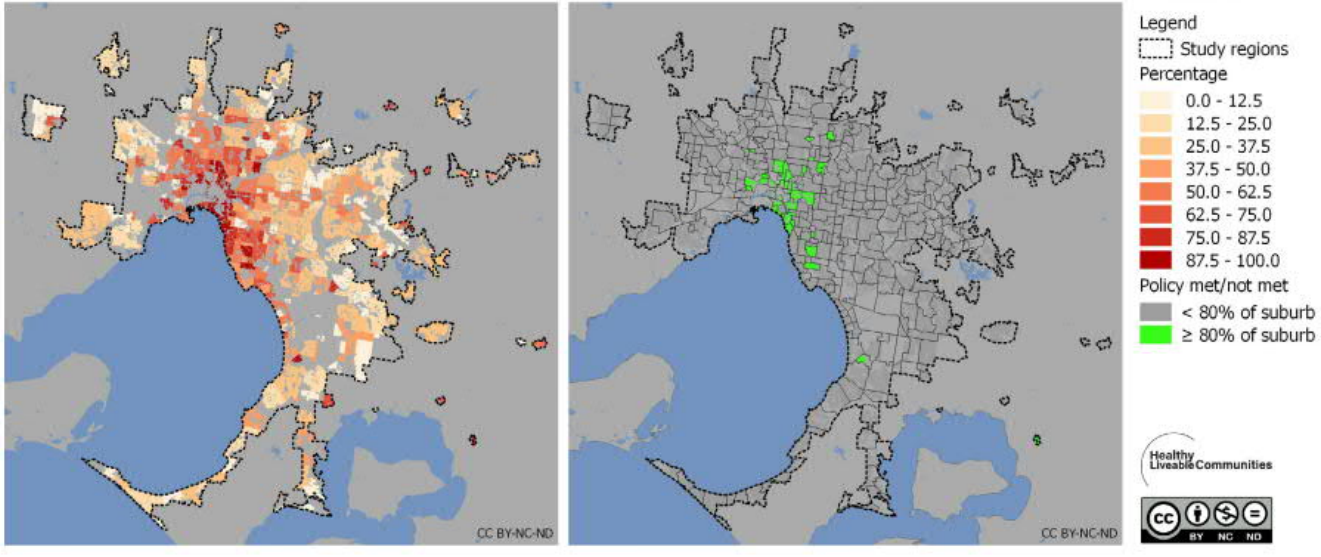
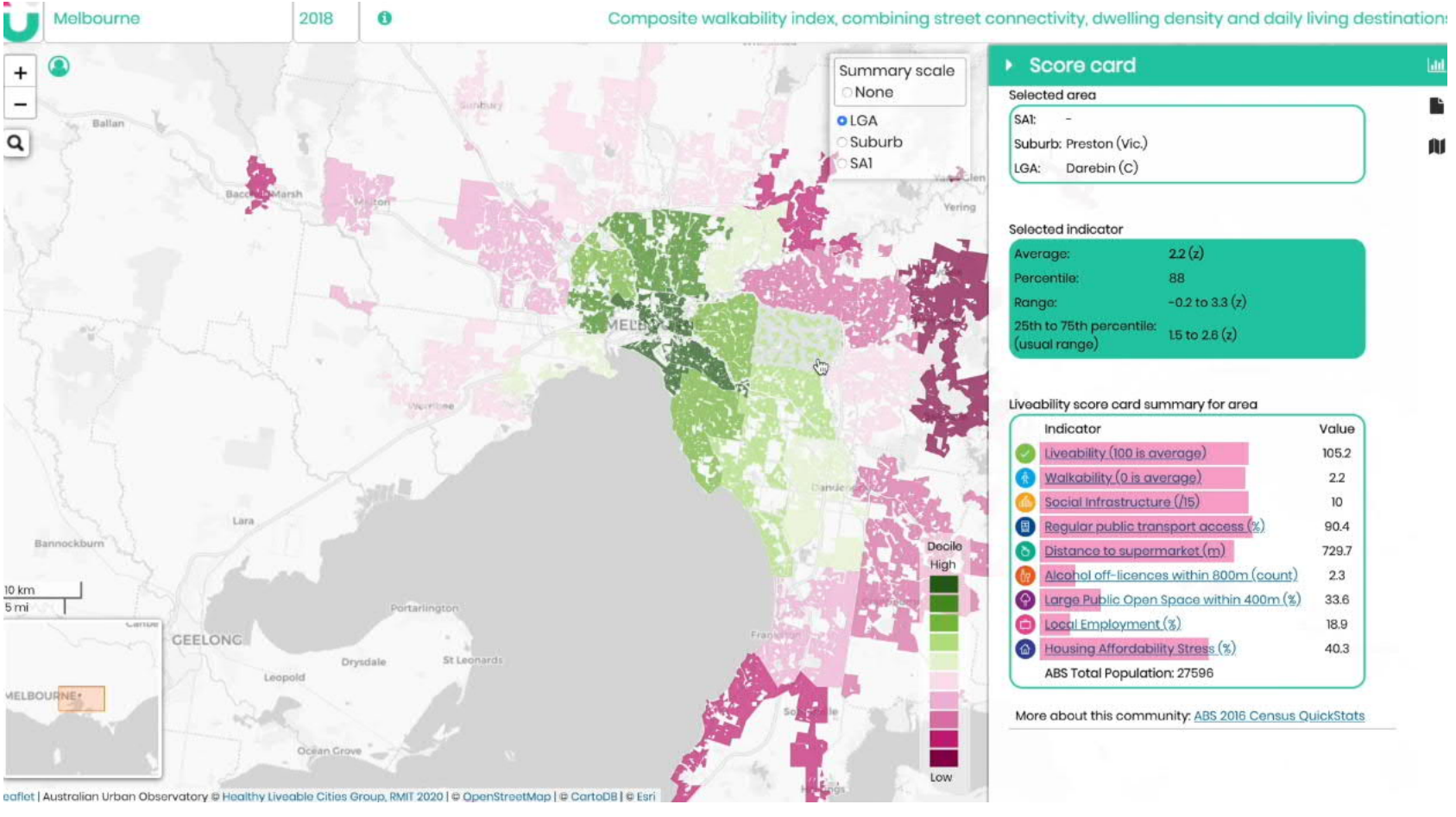


Figure 4: Melbourne: percentage of residences (by suburb) within 1 km of an activity centre with a supermarket (left); number of suburbs complying with the policy (right)

Online tools for the study of urban livability

(Australia Urban Observatory, see: https://auo.org.au/)



How about? Experienced livability and bottom-up definitions for livability

Research on perceived livability

EVERYDAY LIFE, MOBILITY	• Smooth everyday life • Accessibility • Daily services
URBAN EXPE-RIENCES	• Perceived environmental quality • Safe environments • Environmental aesthetics
SOCIAL LIFE	• Sense of community, neighbouring • Social cohesion, social capital • Cultural diversity
HEALTHY ENVIRON-MENTS	• Health promoting environments • Environmental stress restoration • Cultural ecosystem services • Etc.

Environmental psychology

Sosiology

Urban studies

Consumer studies

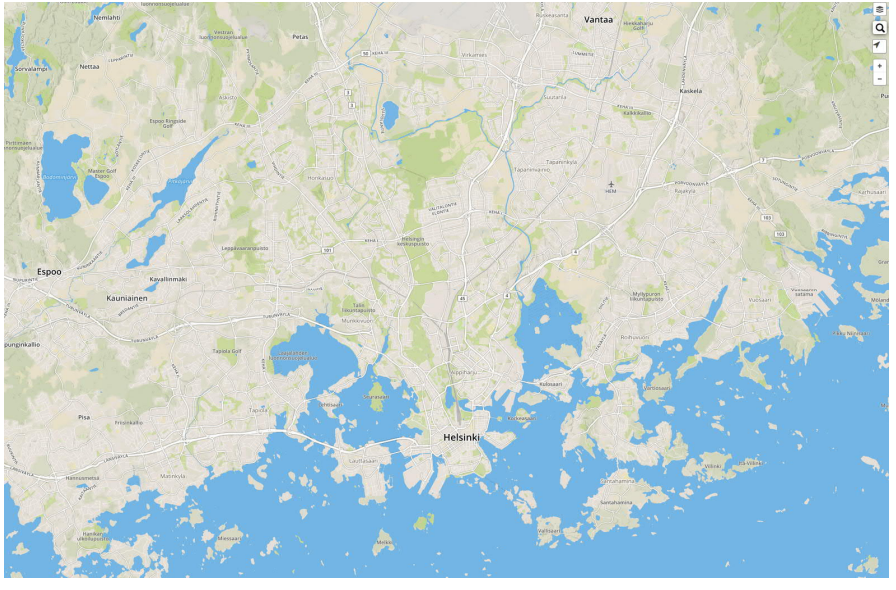
Health sciences

Research on natural resources

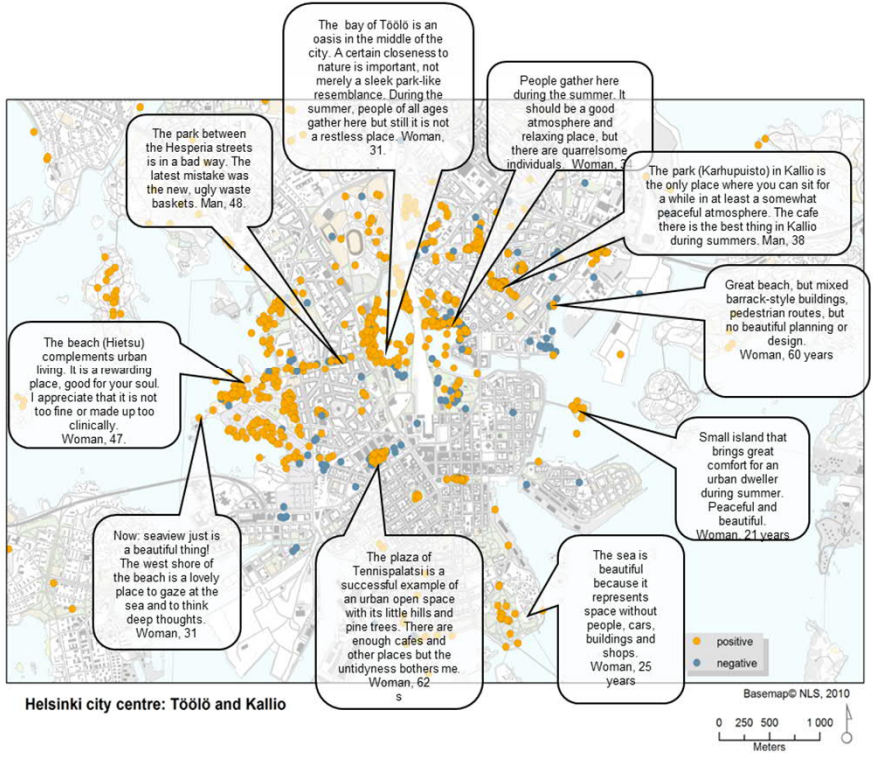
Some critical questions when thinking about the evidence base for livable city planning

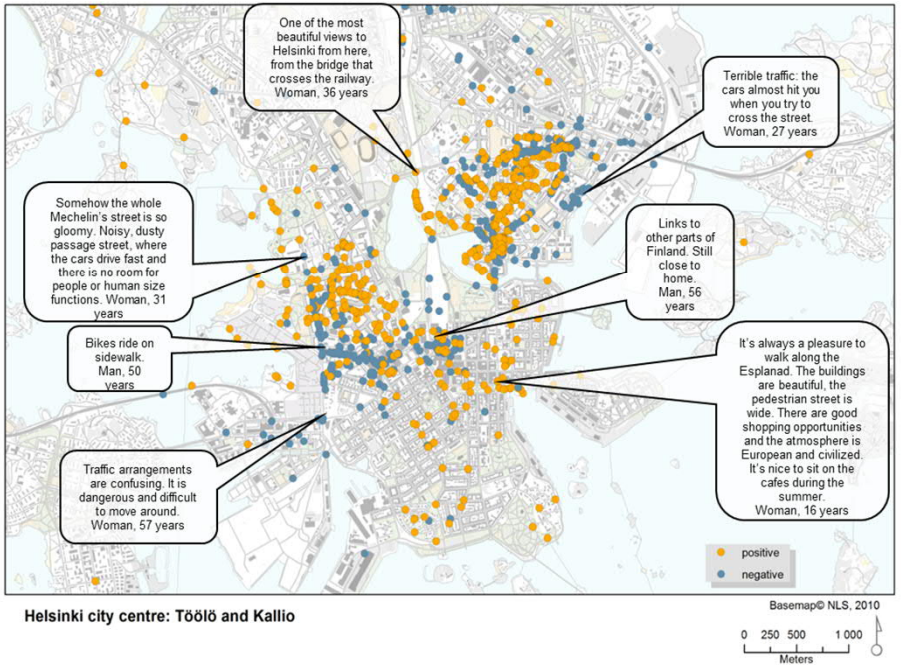
- Scale, context
- Objective and subjective evaluations
- Livability of who?
- Visualization of findings
- How to produce and process the knowledge?

Scale: different indicators for different scales?
Context: consistent or context-sensitive indicators or both?



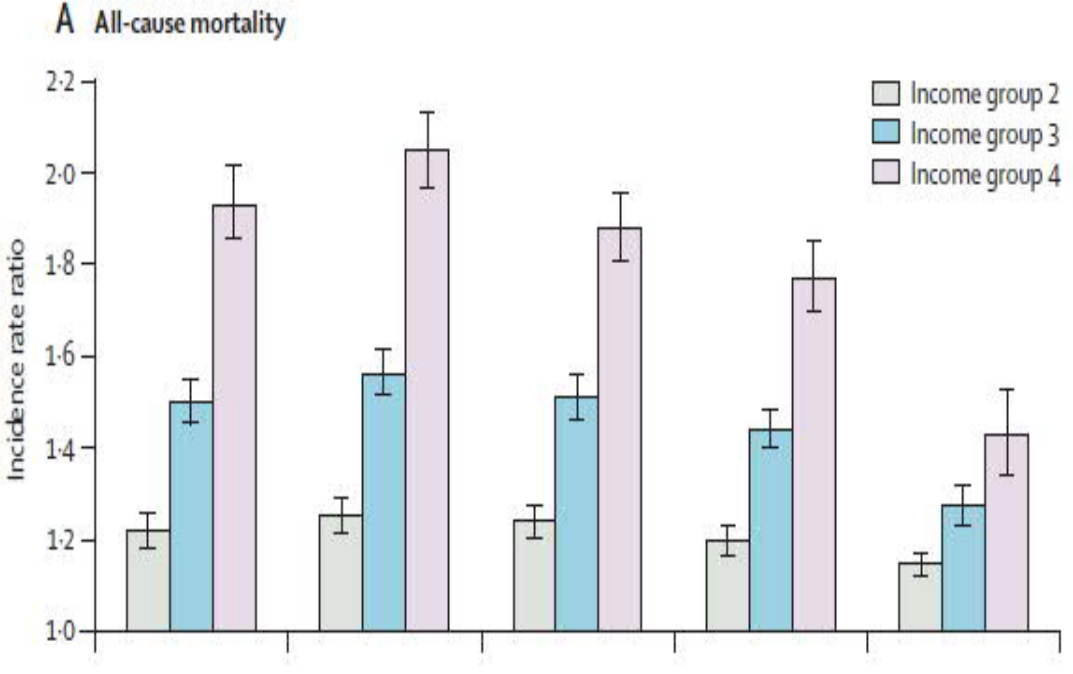
Objective and subjective evaluations





Livability of who?

Green structure & mortality in various socioeconomic groups



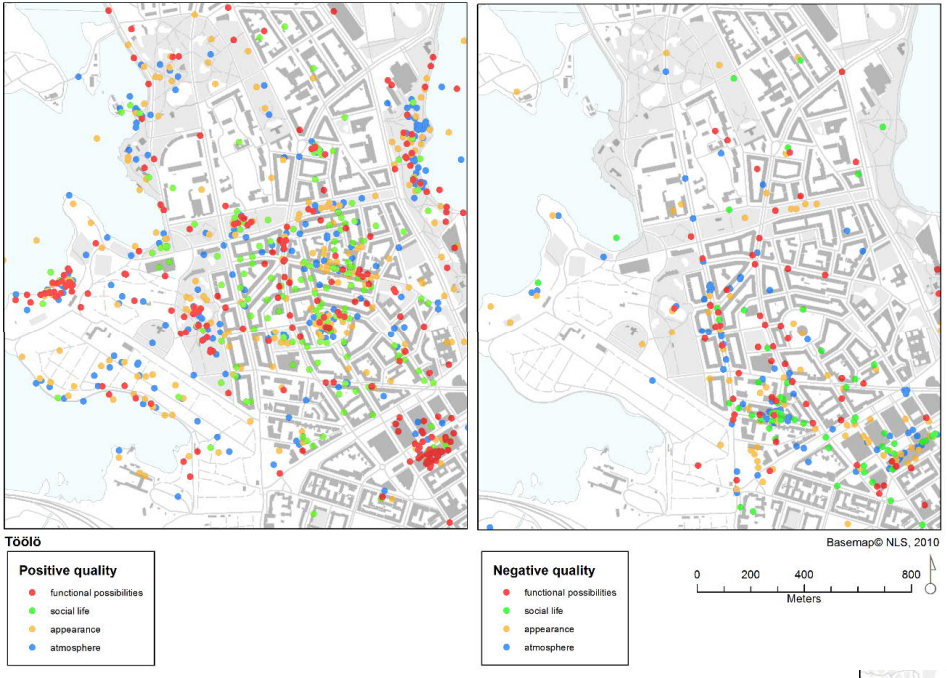
Mitchell, R & Popham, F. (2008) Effect of exposure to natural environment on health inequalities: an observational population study. The Lancet, Vol.372, Issue 9650, 1655-1660.

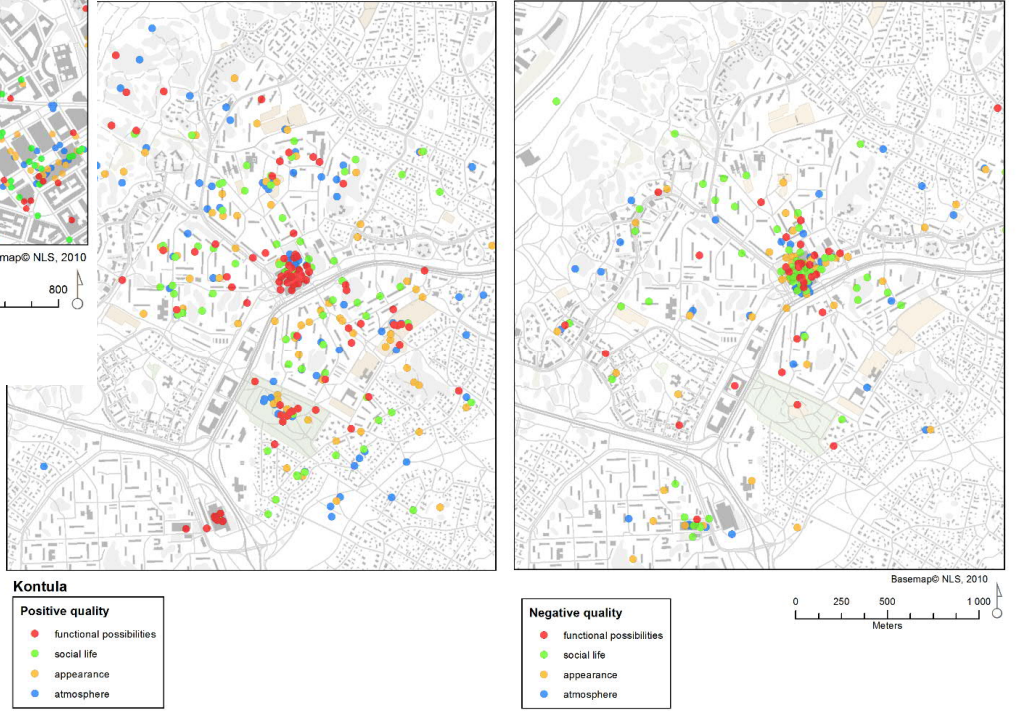
Visualizations of results

Revisiting Donald Appleyard's Livable Streets (https://vimeo.com/16399180)

How to produce and process the knowledge?

Online Maptionnaire tool,
See: https://maptionnaire.com/





Here: Perceived environment quality in Urban Happiness study

Kyttä, M. Broberg, A. Tzoulas, T. & Snabb, K. (2013) Towards contextually sensitive urban densification: location-based softGIS knowledge revealing perceived residential environmental quality. Landscape and Urban Planning, Vol 113, May 2013 , 30-46.

How to plan for livability?

New era star architects designing human friendly, livable cities

Amanda Burden, Former director of the New York City Department of City Planning

Urban design manager Ludo Campbell-Reid, city of Auckland

Case Portland – Concept of Complete Neighborhood

WHAT IS A COMPLETE NEIGHBORHOOD?

The term "complete neighborhood" refers to a neighborhood where one has safe and convenient access to the goods and services needed in daily life. This includes a variety of housing options, grocery stores and other commercial services, quality public schools, public open spaces and recreational facilities, affordable active transportation options and civic amenities. An important element of a complete neighborhood is that it is built at a walkable and bikeable human scale, and meets the needs of people of all ages and abilities.

Complete Neighborhoods

…places that support the health and well-being of Portlanders of all ages and abilities.

Why?

- **Support for healthier lifestyles and convenience**
- **Stronger markets for Neighborhood businesses**
- **Efficient and equitable public investment**
- **Energy efficiency and emissions reduction**
- **Affordability - Lower household costs**

What makes a city healthy?

Basic Public Services

Parks & Nature

Healthy Food

Businesses & Amenities

Watershed Health

Social Connections

Active Transportation

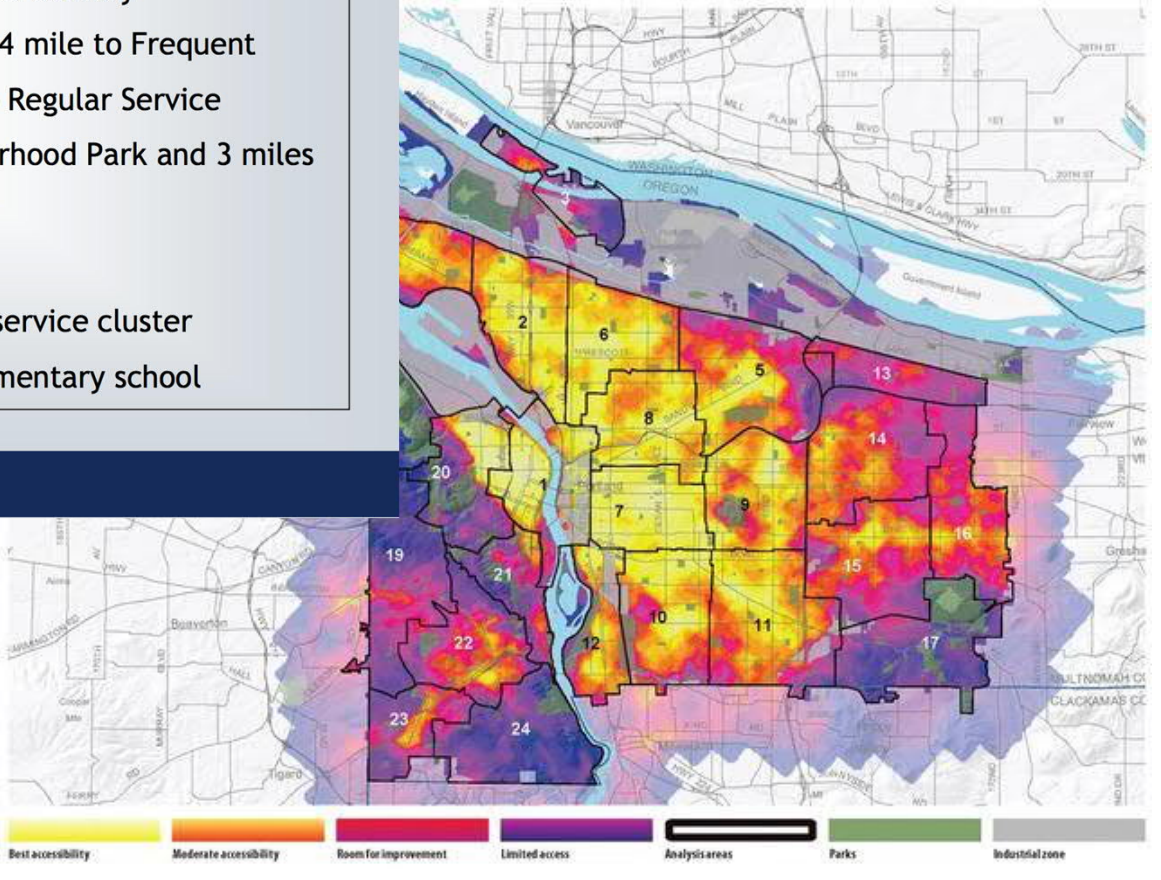
Safety

Quality Housing

Complete Neighborhoods

Have 5 of 7 factors to be considered complete:

Pedestrian	Streets with sidewalks on at least one side
Bicycle	1/4 mile to a Trail or Greenway
Transit	1/2 mile to MAX or 1/4 mile to Frequent Service or 1/8 mile to Regular Service
Parks	1/2 mile to a Neighborhood Park and 3 miles to Community Center
Healthy Food	1/2 mile to Store
Commercial Services	1/2 mile to business/service cluster
Elementary School	1 mile to a public elementary school



Thank you!